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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,390	01/15/2004	Kenichi Ono	247683US2	4962
22850 7590 04/11/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER VU, JIMMY T	
			ART UNIT	PAPER NUMBER
			2821	
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		04/11/2007	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 04/11/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/757,390

Applicant(s)

ONO, KENICHI

Examiner

Jimmy T. Vu

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 59-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 61 and 64 is/are allowed.
- 6) ☒ Claim(s) 59, 60, 62 and 63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/12/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 59, 60, 62 and 63 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishida (U.S. Patent 6,917,639 B2).

Regarding claims 59 and 62, Ishida discloses a semiconductor laser drive apparatus (Figs. 15-19, col. 14, line 39) and method comprising:

a modulation signal supply unit (13) (Figs. 15-19, col. 14, line 58) configured to supply a modulation signal [signal from modulation current source (13) (Figs. 15-19)] to a semiconductor laser (LD) (Figs. 17-19), the modulation signal controlling a drive operation of the semiconductor laser [laser (LD) is connected to the modulation current source (13), it is defined in the art that the LD is controlled by the modulation signal (Figs. 15-19)];

a bias current supply unit (12) (Figs. 15-19, col. 16, line 27) configured to supply a fixed bias current [current from bias current source (13) (Figs. 15-19)] to the semiconductor laser; and

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a predetermined current supply unit (11, 21, 31, 41, 54, 55) (Figs. 15 and 16) configured to supply a predetermined current [current from TH-GEN unit (55) through SW (31) is defined as a predetermined current which is supplied to source (11) (Figs. 15 and 16)] that is less than a light emission threshold current (I_{th} of the laser) (Fig. 15-19) to the semiconductor laser [the current of source (11) may be smaller than the I_{th} of the laser (refer to col. 16, lines 30-31)] at an arbitrary timing independent from the modulation signal [from unit (13)] controlling the drive operation of the semiconductor laser [the currents from source (11) and (13) are at an different arbitrary timing because of the controlling of the switch (31) with delay unit (54), and switch (32) with timing unit (51) (Figs. 15 and 16)].

Regarding claims 60 and 63, Ishida discloses a semiconductor laser drive apparatus (Figs. 15-19, col. 14, line 39) and method comprising:

a modulation signal supply unit (13) (Figs. 15-19, col. 14, line 58) configured to supply a modulation signal [signal from modulation current source (13) (Figs. 15-19)] to a semiconductor laser (LD) (Figs. 17-19), the modulation signal controlling a drive operation of the semiconductor laser [laser (LD) is connected to the modulation current source (13), it is defined in the art that the LD is controlled by the modulation signal (Figs. 15-19)];

a bias current supply unit (12) (Figs. 15-19, col. 16, line 27) configured to supply a fixed bias current [current from bias current source (13) (Figs. 15-19)] to the semiconductor laser; and

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a predetermined current supply unit (11, 21, 31, 41, 54, 55) (Figs. 15 and 16) configured to supply a predetermined current [current from TH-GEN unit (55) through SW (31) is defined as a predetermined current which is supplied to source (11) (Figs. 15 and 16)] that is less than a light emission threshold current (I_{th} of the laser) (Fig. 15-19) to the semiconductor laser [the current of source (11) may be smaller than the I_{th} of the laser (refer to col. 16, lines 30-31)] based on a predetermined current supply timing signal [the delay unit (54) (Figs. 15 and 16, col. 14, lines 51-52) sends a predetermined current supply timing signal to the S&H unit (41)] controlling a supply timing [delay unit (54) supply a timing] for supplying the predetermined current which signal is independent from a drive timing signal [units (51), (52) and (53) (Figs. 15 and 16) giving a drive timing signal which is independent from the predetermined current supply timing signal] controlling a drive timing [unit (51) controls the drive timing] for driving the semiconductor laser.

Allowable Subject Matter

3. Claims 61 and 64 are allowed.
4. Neither the references cited nor the cited references discloses the semiconductor laser drive apparatus comprising an amount of the control current controlled by a *sample hold circuit which is controlled by a sample-hold signal independent from the modulation signal* and samples a light emission threshold current of the semiconductor laser.

Response to Arguments

5. Applicant argues: Ishida fails to teach or suggest an arbitrary timing because of the controlling of the switch with delay unit, and switch with timing unit.

6. Examiner disagrees because as taught by Ishida et al., the predetermined current supply unit (11, 21, 31, 41, 54, 55) (Figs. 15 and 16) configured to supply a predetermined current [current from TH-GEN unit (55) through SW (31) is defined as a predetermined current which is supplied to source (11) (Figs. 15 and 16)] that is less than a light emission threshold current (I_{th} of the laser) (Fig. 15-19) to the semiconductor laser [the current of source (11) may be smaller than the I_{th} of the laser (refer to col. 16, lines 30-31)] at an arbitrary timing independent from the modulation signal [from unit (13)] controlling the drive operation of the semiconductor laser [the currents from source (11) and (13) are at an different arbitrary timing because of the controlling of the switch (31) with delay unit (54), and switch (32) with timing unit (51) (Figs. 15 and 16)].

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kawakami (U.S. Patent 6,396,858 B2) is cited.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy T Vu whose telephone number is (571) 272-1832. The examiner can normally be reached on M - F: 9 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on (571) 272-1662. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2800.

Jimmy Vu

March 23, 2007

Handwritten signature of Douglas W. Owens in black ink, with the date 3/30/07 written to the right.

DOUGLAS W. OWENS
SUPERVISORY PATENT EXAMINER